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China's Ambitions at Sea and Naval Modernization

China's Navy has been the world's largest naval force for several years. In recent years, the Chinese government has rapidly modernized and diversified the country's naval fleet and launched advanced guided-missile destroyers, amphibious assault ships, and aircraft carriers, revealing China's longstanding blue-water ambitions. China's People's Liberation Army (PLA) and its navy, PLA Navy or PLAN, currently have between 370 to 400 total service units in its active naval inventory and continue to grow in size and capabilities.

From 2005 to 2022, China's PLAN added as many as 135 ships to its inventory, while in the same period, the U.S. Navy added just two, according to a U.S. Congressional Research Service report and data from the annual Department of Defense (DoD) report. The newly added ships include a variety of vessels: ballistic missile submarines (SSB), nuclear-powered attack submarines (SSN), diesel attack submarines, aircraft carriers, cruisers, destroyers, frigates, corvettes, missile-armed coastal patrol craft, amphibious tank landing ships, amphibious transport dock ship, and amphibious medium landing ship.¹

Key Highlights

PLAN has an overall battle force of over 370 ships and submarines, including over 140 major surface combatants, according to the DoD's annual 2023 report on military and security developments in China. The number of PLAN vessels is expected to increase to 395 ships by 2025 and 435 ships by 2030, according to the Pentagon's report.

Chinese Navy currently has 426 total units in its active naval inventory, according to the World Directory of Modern Military Warships (WDMMW). This includes frontline commissioned vessels including aircraft carriers, submarines, destroyers, frigates, corvettes, mine warfare and offshore patrol vessels, and amphibious assault ships; however, it does now count smaller patrol vessels, survey and replenishment ships.²



1. China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress, Congressional Research Service, May 15, 2023, <https://sgp.fas.org/crs/row/RL33153.pdf>

2. WDMMW, People's Liberation Army Navy's Current Inventory 2024, World Directory of Modern Military Warships. <https://www.wdmmw.org/peoples-liberation-army-navy-china.php>

The Chinese Navy's current inventory includes:

- Aircraft Carriers – 3
- Submarines – 72
- Destroyers – 49
- Frigates – 44
- Corvettes – 71
- Mine Warfare – 49
- Amphibious Assault Ships – 11
- Offshore Patrol Vessels – 127

The Chinese Navy's five branches are the Submarine Force, Surface Force, Coastal Defense Force, Marine Corps, and Naval Air Force. The PLAN consists of three major fleets: the North Sea, the East Sea, and the South Sea.

China's Naval Ambitions

In recent years, the Chinese Navy has made its presence felt regionally and globally, driven by the PLAN's ambition to become a "world-class navy." The scale and pace of China's naval expansion serve as a key instrument in safeguarding the PRC's regional interests, surrounded by regional naval powers, including Russia, Japan, and India, and the frequent presence of the U.S. Navy in nearby waters.³ China views a robust naval force as essential to counter potential challenges to its interests in the Asia-Pacific region from the United States and its allies.



China's Liaoning aircraft carrier takes part in a military drill in the western Pacific Ocean. (Image Credit: VCG/Reuters)

3. PLAN Party Committee, Strive to Comprehensively Build the PLAN into a World-class Navy, Qiushi, April 32, 2018. https://www.qstheory.cn/dukan/qs/2018-05/31/c_1122897922.htm

China's growing shipbuilding capability accelerated the rapid expansion of the PLAN and also facilitated China's transition into a commercial shipbuilding superpower. In 2023, China retained its lead in the global shipbuilding market followed by South Korea and Japan, and this trend is expected to continue in 2024. The modernization and expansion of the shipyards have resulted in increased shipbuilding capacity and capability for different military projects, such as submarines, and surface combatants.

China's leading state-owned shipbuilding companies, including China Shipbuilding Industry Corporation (CSIC) and China State Shipbuilding Corporation (CSSC), which merged in 2019 to form China Shipbuilding Group Corporation (also known as CSSC) dominate both commercial and military shipbuilding, producing three-quarters of China's ships and all domestically built vessels for the Chinese navy. Changxing Island in Shanghai has transformed into a major shipbuilding hub, with the rapid expansion of its shipyard facilities, pivotal in constructing China's advanced warships.

The size, capability, and capacity of China's shipbuilding industry is considered a key challenge to the long-standing status of the United States as the leading military power in the Western Pacific by U.S. military officials and observers. Amid growing apprehensions from the U.S. and



A brigade of the Eastern Theater Command Army during an exercise.
(Image Credit: Lin Jiayu/China Ministry of Defense)

its regional allies regarding the expanding global presence of PLAN and its evolving naval mission capabilities, Chinese officials have consistently denied any intention of seeking expansion or spheres of influence beyond its borders. Instead, they have criticized the United States for maintaining an extensive network of approximately 800 military bases across over 70 countries and territories. Beijing accuses Washington of destabilizing global security and meddling in the internal affairs of other nations through these overseas installations.⁴

Western observers often view the Chinese naval modernization effort as being aimed at developing capabilities to:

- Strengthen control over China's maritime domains and near-seas region, especially in the South China Sea.
- Assert China's right to conduct activities within its 200-mile maritime exclusive economic zone (EEZ).
- Safeguard China's vital commercial sea routes (SLOCs),
- Actively respond to the situation in the event of a conflict in China's near-seas region over Taiwan
- Counterbalance U.S. influence in the Western Pacific region and strengthen China's status as the leading regional and world power.

4. GT, Recent heightened tensions in South China Sea have a lot to do with US meddling: FM spokesperson, Global Times, April 10, 2024. <https://www.globaltimes.cn/page/202404/1310380.shtml>

However, China has claimed that its naval expansion is not aimed at competition but at safeguarding national sovereignty, territorial integrity, and rights. Some of the other roles and missions include maritime security operations such as antipiracy operations, humanitarian assistance, disaster relief operations, and noncombatant evacuation operations.

China's Naval Modernization Efforts

The Navy constitutes one aspect of China's overall defense modernization endeavors. The Chinese military aims to upgrade its capabilities and improve its proficiencies across all warfare domains for an efficient joint force that can conduct the full range of land, air, and maritime as well as nuclear, space, electronic warfare, and cyberspace operations.

To achieve its goal of building a "strong and modernized navy force," the PLAN has substituted or upgraded its previous generations of platforms with larger, modern multi-mission combatants. The naval modernization efforts began in the mid-1990s. Presently, the Chinese Navy primarily comprises state-of-the-art multi-role vessels equipped with sophisticated anti-ship, anti-aircraft, and anti-submarine weaponry and sensor systems. Aligning with the strategic imperative of safeguarding both near and far sea territories, the PLAN is accelerating its shift from near-sea defense to broader protection missions in distant waters. It is enhancing capabilities for strategic deterrence, counterattack, maritime maneuvering, joint operations, comprehensive defense, and integrated support, to build a robust and modernized naval force.

The PRC's 2019 defense white paper mentioned PLAN as adjusting to changes in the strategic requirements by "speeding up the transition of its tasks from defense on the near seas to protection missions on the far seas." A significant focus of the PLAN's modernization is upgrading and expanding its littoral warfare capabilities, especially in the South China Sea and East China Sea, and more recently in the Taiwan Strait.⁵

The recent Chinese exercises demonstrate that China is continuously testing and exploring the capabilities of its naval fleet. In August 2022, China held its biggest-ever show of military force in and around Taiwan in response to the controversial visit to the island by former U.S. House Speaker Nancy Pelosi. China exhibited its military might and naval capabilities during the exercise as it conducted anti-submarine operations and air-to-sea strikes in the sea and airspace near Taiwan Island. The drills focused on organizing joint anti-submarine and sea assault operations. Experts have claimed that China is currently building amphibious vessels



Naval vessels attached to a destroyer flotilla under the PLA Eastern Theater Command sail in formation during a training exercise on May 14, 2024. (Image Credit: China Military/Wan Haichao)

5. Chinese Government, Full Text: China's National Defense in the New Era, The State Council Information Office of the People's Republic of China, Xinhua, July 24, 2019. https://english.www.gov.cn/archive/whitepaper/201907/24/content_WS5d3941ddc6d08408f502283d.html

and helicopters that can help stage a possible full-scale invasion of Taiwan if needed.⁶

In April 2023, China conducted ‘United Sharp Sword’ military drills in the Taiwan Strait. The drills featured a wide array of modern weaponry including long-range rocket artillery, naval destroyers, missile boats, air force fighters, bombers, jammers, and refuellers.⁷

According to the U.S. Office of Naval Intelligence, the design and quality of Chinese ships is in many cases comparable to that of U.S. Navy ships, and it is believed that China is rapidly closing the gap in any areas of deficiency.⁸

China’s naval modernization effort covers an extensive range of platforms and programs, including anti-ship ballistic missiles (ASBMs), anti-ship cruise missiles (ASCMs), submarines, surface ships, aircraft, unmanned vehicles, sophisticated sensors and weapons, stealth features, and C4ISR (command and control, communications, computers, intelligence, surveillance, and reconnaissance) systems. The transformation also includes enhancements in logistics, personnel education and training, and naval exercises.

Key Overview Points Concerning China’s Naval Modernization Effort:

- The Chinese Navy has eight Type 055 Destroyers (NATO designation: Renhai-class) in active service. Type 055 Renhai-class guided-missile cruisers are among the most formidable warships. China’s Type 055 destroyer is compared with its U.S. and British counterparts, the U.S. Navy’s Ticonderoga-class cruiser, and the Royal Navy Type 45.
- China launched its fourth amphibious assault ship, a Landing Helicopter Dock (LHD) known as Type 075 (Yushen-class), in Shanghai in December 2023. The Type 075 amphibious assault carrier is comparable to but slightly smaller than the American Tarawa- and Wasp-class amphibious assault ships, displacing around 35,000 tons.
- In 2022, China launched its largest and most advanced third aircraft carrier, Fujian. The 80,000-ton ship, the first of China’s three aircraft carriers to be fully designed and built domestically, is a major step towards the modernization of the Chinese military.
- The new classes of surface combatants include Type 054A Jiangkai II-class guided-missile frigates, Type 055 cruisers (or large destroyers), Type 052 Luyang III-class destroyers, and Type 056A next-generation corvettes specialized in anti-submarine warfare.
- The Amphibious Ships include Type 071 amphibious ships, Type 071 (or Yuzhao), and Type 075 amphibious assault ships.

6. IRIA Report, China demonstrates military strength around Taiwan, International Relations Insights & Analysis, August 9, 2022. <https://www.ir-ia.com/China-demonstrates-military-strength-around-Taiwan.html>

7. IRIA News, China conducts ‘United Sharp Sword’ military drills in Taiwan Strait, International Relations Insights & Analysis, April 9, 2023. <https://www.ir-ia.com/news/china-conducts-united-sharp-sword-military-drills-in-taiwan-strait/>

8. U.S. Naval Institute Staff, Document: Office of Naval Intelligence’s Chinese People’s Liberation Army Navy, Coast Guard Ship Identification Guide, USNI News, April 30, 2024. <https://news.usni.org/2024/04/30/document-office-of-naval-intelligences-chinese-peoples-liberation-army-navy-coast-guard-ship-identification-guide-2>



This aerial photo taken on January 2, 2017, shows a Chinese navy formation, including the aircraft carrier Liaoning (center), during military drills in the South China Sea. (Image Credit: STR/AFP/Reuters)

Aircraft Carriers Expand China's Growing Naval Presence

Amidst strategic shifts and advancements in naval capabilities, the People's Republic of China (PRC) is in the beginning stages of operating what the PLA calls its multi-carrier force. Chinese Navy currently has three aircraft carriers:

- Liaoning (Type 001)
- Shandong (Type 002)
- Fujian (Type 003)

China's first aircraft carrier, Liaoning (Type 001), entered service in 2012. Shandong (Type 002), was the country's second aircraft carrier and first fully indigenously built carrier, which entered service in December 2019. Chinese Navy launched its third carrier, Fujian (Type 003) in June 2022. Fujian is expected to conduct sea trials this year and enter service by 2025. China's third carrier Fujian, with a displacement of more than 80,000 tons, is larger than its two predecessors. The carrier is capable of deploying up to 70 aircraft, including fighter jets, early-warning aircraft and anti-submarine helicopters.

Fujian has electromagnetic catapult systems, also called Electromagnetic Aircraft Launch System (EMALS), that rely on strong magnetic fields and electricity to launch aircraft.⁹ This technology allows planes to be launched more frequently and with more fuel and munitions. The United States is the only other country with aircraft carriers equipped with this technology. China's first two aircraft carriers launched planes using ski-jump take-off ramps.

Reports suggest that China is building a fourth aircraft carrier, which may be China's first nuclear-powered surface ship.¹⁰ The new aircraft carriers and the latest developments demonstrate

9. Orange Wang, China says its Fujian carrier is world's largest conventionally powered warship, South China Morning Post, June 23, 2024. <https://www.scmp.com/news/china/military/article/3267713/china-says-its-fujian-carrier-worlds-largest-conventionally-powered-warship>

10. Liu Xuanzun, China to unveil fourth aircraft carrier soon: PLA Navy political commissar, Global Times, March 6, 2024. <https://www.globaltimes.cn/page/202403/1308323.shtml>

PLAN's endeavors to upgrade its status to a blue-water navy for near-seas defense and far-seas protection, and to safeguard national sovereignty, territorial integrity, and national interests. A blue-water navy is essentially a maritime force capable of operating globally, across the deep waters of open oceans, functioning far away from its home ports. The fleet of a blue water navy constitutes aircraft carriers, submarines, and large surface ships such as destroyers, frigates, and cruisers.

Chinese Navy's Carrier-based Aircraft:

The PLAN continues to develop a range of aircraft for deployment on its carriers and combat vessels. China's primary carrier-based fighter aircraft is the J-15 'Flying Shark', which can operate from carriers equipped with a ski-ramp instead of catapults. China has developed an upgraded, catapult-capable variant of the J-15 carrier-borne multirole fighter aircraft for its third aircraft carrier, which features an electromagnetic catapult system.¹¹



A J-15 ship-borne helicopter prepares to land on the flight deck of the aircraft carrier Liaoning (Hull 16). (Image Credit: China Military/Zhang Lei)

Latest reports suggest that China is developing a carrier-capable variant of its FC-31/J-31 fifth-generation stealth fighter to complement or succeed the J-15 on catapult-equipped carriers. The FC-31 is a twin-engine stealth fighter developed by Shenyang Aircraft Corporation (SAC), a subsidiary of the state-owned Aviation Industry Corporation of China (AVIC). China is also developing a carrier-capable variant of the fifth-generation J-31 fighter, known as the J-35, which conducted its maiden flight in 2021. The aircraft features a catapult launch bar and a wing-fold mechanism.

In February 2024, Chinese media reported the presence of a stealth fighter jet mockup, identified as the J-35, on the flight deck of the country's first aircraft carrier, the Liaoning. The photos and reports suggested that China's advanced carrier-based fighter jet J-31 can be deployed on



Liaoning aircraft carrier during an exercise in the western Pacific on April 20, 2018.. (Image Credit: China Military/Zhang Lei)

both the catapult-equipped carrier Fujian as well as the ramp-assisted carriers Liaoning and Shandong.¹²

Beyond fighter aircraft, the Chinese Navy is also improving its situational awareness. China is developing a carrier-based airborne early warning (AEW) aircraft, the KJ-600, which is reportedly similar to the U.S. Navy's carrier-based E-2 Hawkeye AEW aircraft.

11. Andreas Rupprecht Mainz and Jon Grevatt, "Shenyang Produces First Catapult-Capable J-15," *Jane's Defence Weekly*, December 16, 2021. <https://www.janes.com/defence-news/news-detail/shenyang-produces-first-catapult-capable-j-15>

12. Liu Xuanzun, Aircraft carrier Liaoning to finish the upgrade, mockup of stealth fighter spotted on deck, *Global Times*, February 19, 2024. <https://www.globaltimes.cn/page/202402/1307283.shtml>

Early warning aircraft can detect and track other aircraft at extreme ranges, and guide attacks against targets, all of which increases the aerial and maritime situational awareness, and effectiveness of its combat aircraft. Experts say that once it enters service on the carriers, the KJ-600 early warning aircraft will be a massive boost to the Chinese Navy's blue-water aspirations. Chinese analysts believe that KJ-600's addition to China's third aircraft carrier, the electromagnetic catapult-equipped Fujian, will improve coordination between carrier-based fighter jets and early warning aircraft and accelerate combat capabilities. China is also developing the anti-submarine-warfare (ASW)-capable variant of the Harbin Z-20 helicopter for its navy.

Underwater Drones and Unmanned Systems

As part of its naval modernization efforts, the Chinese Navy has embraced the use of drones for intelligence, surveillance, reconnaissance, mine countermeasures, anti-submarine warfare, electronic warfare, and underwater sensor grid development, among other missions. Chinese Navy has been conducting sea trials on multiple surface combatants with vertical take-off and landing (VTOL) unmanned aerial vehicles (UAVs).

China has significantly expanded its deployment of underwater reconnaissance drones to bolster its presence in the South China Sea with the development of a range of unmanned vessels, such as the Qianlong III autonomous underwater vehicle (AUV), and the L30 unmanned patrol boat, for missions encompassing patrol, monitoring, anti-terrorism, law enforcement, and search and rescue operations. Additionally, China is actively pursuing the development of extra-large uncrewed underwater vehicles (XLUUVs), with notable examples including the HSU-001.

In a landmark achievement, China introduced the world's first autonomous seaborne drone carrier, the Zhu Hai Yun, in 2023. Equipped for autonomous navigation and remote control,

this carrier can serve as a mothership for smaller unmanned air, surface, and undersea research and monitoring vehicles. It is capable of carrying over 50 unmanned systems across air, sea surface, and underwater domains.¹³



China's Type 022 Houbei class catamaran missile boat.
(Image Credit: Chinese Military/Sina/PLAN)

Also in 2023, China unveiled a naval variant of its Guizhou WZ-7 drone, resembling the U.S. Navy's MQ-4C Triton. Built by Guizhou Aircraft Corporation, this drone is designed for maritime surveillance and reconnaissance tasks.

China's advancements in underwater technology are underscored by projects like the Haidou-1, which set a depth record of 10,908 meters, going down to the sea bed of the Challenger Deep in the Mariana Trench, the deepest point recorded in the earth's seabed. The Chinese underwater

13. Liu Xuanzun, China makes breakthroughs in unmanned ship technologies, Global Times, June 26, 2023. <https://www.global-times.cn/page/202306/1293216.shtml>

glider Haiyan achieved a record endurance of 3,600km during a 141-day voyage in the South China Sea.

Moreover, a less-publicized yet noteworthy addition to the Chinese Navy's capabilities is the development of what is known as the 'Underwater Great Wall' initiative.¹⁴ This refers to the establishment of a network of ship and underwater sensors for real-time tracking and detection of surface and subsurface targets. This strategic endeavor is aimed at enhancing China's capability to detect enemy submarines and reinforcing its maritime presence in critical regions like the South China Sea and the vicinity of Guam.

Submarines: Stealth and Dominance below the Surface

Modernizing its submarine force has been a key priority for the Chinese Navy. Nearly 50 years after the commissioning of the first Type 091 nuclear-powered attack submarine (SSN), China has steadily advanced its capabilities through continuous enhancements, expansion of shipyard facilities, and the integration of cutting-edge technologies, to produce world-class submarines. China possesses a nuclear-powered submarine fleet and a diesel-electric submarine fleet, which remains the backbone of China's submarine force. China's People's Liberation Army Navy Submarine Force (PLANSF) operates a fleet of approximately 60 submarines.¹⁵ These include:

- Nuclear-powered ballistic missile submarines (SSBNs): 6
- Nuclear-powered attack submarines (SSNs): 6
- Diesel-electric attack submarines (SSKs): 48



A nuclear-powered Type 094A Jin-class ballistic missile submarine of the Chinese Navy in the South China Sea on April 12, 2018. (Image Credit: Reuters)

14. Lyle J. Goldstein, China Is Building a "Undersea Great Wall" To Take on America in a War, *The National Interest*, October 27, 2019. <https://nationalinterest.org/blog/buzz/china-building-undersea-great-wall-take-america-war-90601>

15. Christopher H. Sharman and Terry Hess, PLAN Submarine Training in the "New Era", *China Maritime Report 34*, Newport, RI: Naval War College China Maritime Studies Institute, January 2024. <https://www.andrewerickson.com/2024/01/china-maritime-report-34-plan-submarine-training-in-the-new-era/>

China's submarine fleet is expected to increase to 80 units by 2035, according to the United States government's annual report on China's military power.¹⁶

In recent years, China's navy and its submarine force have undergone significant advancements with substantial investments in research and development (R&D) and the enhancement of production infrastructure at its three submarine shipyards: Bohai Shipyard in Huludao, Jiangnan Shipyard in Shanghai, and Wuchang Shipyard in Wuhan. Construction of nuclear-powered submarines primarily occurs at the Bohai Shipbuilding Heavy Industry Company shipyard, while Wuhan serves as the focal point for the design and construction of conventionally powered submarines.

China's inventory of nuclear-powered attack submarines and ballistic missile submarines includes the Yuan-class (Type 039) diesel-electric attack submarines, the Shang-class (Type 093) SSN, Ming-Class (Type 035) SSKs, Song-Class (Type 039) SSKs equipped with torpedoes and anti-ship missiles, and Jin-class (Type 094) SSBN, which is the newest additions to its nuclear submarine fleet.¹⁷

Latest reports suggest that China has started equipping its nuclear-powered ballistic missile submarines with advanced JL-3 submarine-launched ballistic missiles (SLBMs), first tested in 2018. With an estimated range of more than 10,000 kilometers and capable of carrying multiple nuclear warheads, the JL-3 SLBMs are capable of targeting the continental United States, according to the commander of U.S. Strategic Command Air Force Gen. Anthony Cotton.¹⁸

China has also made strides in the submarine export market, with the state-owned China Shipbuilding Industry Corporation (CSIC) selling indigenous designs to Thailand and Pakistan. In 2016, Pakistan approved the purchase of eight submarines equipped with AIP systems from China, based on the Yuan-class (Type 039). China also delivered two Ming-class submarines to Bangladesh in 2016, followed by the sale of two Type 053H3 frigates to Bangladesh and four Type 054A frigates to Pakistan.¹⁹

Destroyers, Frigates and Corvettes: Guardians of Maritime Sovereignty

Warships form an integral part of a naval surface fleet, showcasing a diverse array of capabilities and functions. Among these, frigates and destroyers stand out as common types utilized by most navies. Both excel in maneuverability and serve as escorts, safeguarding larger vessels against threats from air, surface, and underwater domains.

Frigates are more common and are used by several navies globally, whereas destroyers are part of only 14 nations, as per the Global Fire Power Index 2024. The U.S. Navy has the highest number

16. U.S. Department of Defense, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China, 2023. <https://www.defense.gov/Spotlights/2023-China-Military-Power-Report/>

17. Peter Suci, China's Type 094 Nuclear Missile Submarines Has Just One Mission, The National Interest, March 16, 2024. <https://nationalinterest.org/blog/buzz/chinas-type-094-nuclear-missile-submarines-has-just-one-mission-210049>

18. Luke Caggiano, China Deploys New Submarine-Launched Ballistic Missiles, Arms Control Association, May 2023. <https://www.armscontrol.org/act/2023-05/news/china-deploys-new-submarine-launched-ballistic-missiles/>

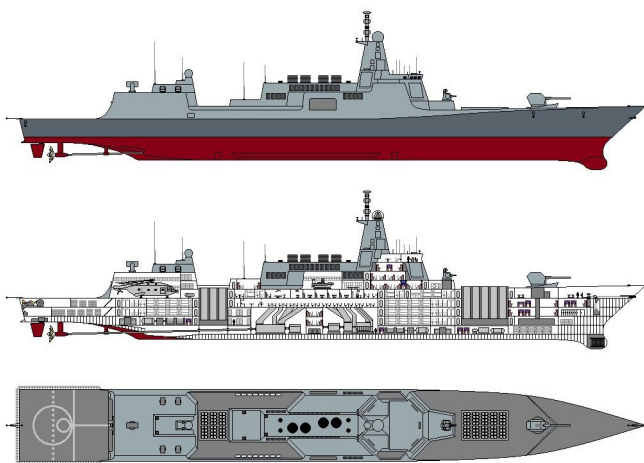
19. IRIA News, Pakistan Navy receives second Type 054A/P Frigate from China, International Relations Insights & Analysis, June 25, 2022. <https://www.ir-ia.com/news/pakistan-navy-receives-second-type-054a-p-frigate-from-china/>

of destroyers in service at 75, followed by China with 49.²⁰ Both frigates and destroyers boast cutting-edge weaponry and defense systems, underlining their critical roles in naval operations.

Frigates are smaller, versatile vessels designed for various missions such as anti-submarine warfare, maritime security, and patrol duties. Destroyers are larger, multi-role surface combatants with extensive firepower and advanced capabilities, capable of engaging threats in multiple domains including air, surface, and subsurface. Cruisers are larger than destroyers and are equipped with advanced sensors and weaponry, offering air defense and missile strike capabilities. Corvettes are smaller than frigates and typically used for coastal defense, patrol, and escort missions, offering cost-effective solutions for maintaining maritime security.

In recent years, the People's Liberation Army Navy (PLAN) has undergone significant modernization efforts, with a focus on building advanced multi-role platforms equipped with cutting-edge anti-ship, anti-air, and anti-submarine weaponry and sensors. This initiative is part of a robust shipbuilding program aimed at bolstering the PLAN's surface combatant capabilities with new guided-missile cruisers and destroyers, as well as guided missile frigates.

Type 055 Renhai-class Guided-Missile Cruiser: Representing a key achievement in the maritime domain, China's Type 055 Renhai-class guided-missile cruisers are among the most formidable warships globally, boasting a displacement of approximately 12,000 to 13,000 tons.²¹ The first batch of Type 055 Destroyers consists include Nanchang (101), Lhasa (102), Anshan (103), Wuxi (104), Dalian (105), Yan'an (106), Zunyi (107), and the latest Xianyang (108).



Chinese Navy Type 055 Destroyer. (Image Credit: X/Social Media)

anti-ship missile, HHQ-9 long-range air-defense missile, Type 8 (YU-8) rocket-assisted torpedo, and the CJ-10 land-attack cruise missile.

Type 054A Frigate: China's frigate capabilities have seen advancements with the Jiangkai II (Type 054A) class, boasting a displacement of around 4,000 tons. Reports suggest China is

Type 052D Destroyer: China has introduced multiple destroyer classes since the 1990s, with the latest being the Luyang III (Type 052D) class. These vessels, displacing about 7,500 tons, feature advanced phased-array radars and vertical launch missile systems akin to those on U.S. Navy cruisers and destroyers. In 2023, China launched an upgraded version of the Type 052D, called the Type 052DL, that incorporates an extended-length helicopter flight deck, new radar and is equipped advanced air-defense system and is capable of launching a range of missiles including the YJ-18 anti-ship cruise missile, YJ-21 hypersonic

20. Global Firepower, Destroyer Fleet Strength by Country (2024). Ranking total number of destroyer warships by country, from highest to lowest. <https://www.globalfirepower.com/navy-destroyers.php>

21. Eric Wertheim, Type 055 Renhai-class Cruiser: China's Premier Surface Combatant, U.S. Naval Institute, Vol. 149/3/1,441, March 2023. <https://www.usni.org/magazines/proceedings/2023/march/type-055-renhai-class-cruiser-chinas-premier-surface-combatant>

constructing a new batch of Type 054A frigates for the PLAN, signifying continued growth in naval capabilities. There are an estimated 30 Type 054As in service with the Chinese Navy.

Type 056 Corvette: China has rapidly expanded its corvette fleet with the Jiangdao class (Type 056), displacing between 1,300 to 1,500 tons. A total of 72 Jiangdao units have entered service, and there are six export variants for the international market.

China's Next Generation Type 054B Frigate:

Boasting several advanced features, China's new Type 054B frigate, which is larger and more capable than its predecessor, is nearing completion.

Type 054B will feature a longer operational range, stronger combat capability, and cutting-edge technology. This next-generation warship is projected to become one of PLAN's most important vessels in the future and is expected to succeed the Chinese Navy's current workhorse Type 054A in missions related to China's defense and security, and regional peace, and stability. Type 054B has an estimated displacement of around 6,000 tons, compared to less than 4,000 tons for the Type 054A.



A Chinese navy helicopter during a joint naval exercise on the sea off Qingdao, China in April 2019. (Image Credit: Xinhua/Li Ziheng)

Launched at a Shanghai shipyard in August 2023, the Type 054B frigate is also expected to join PLAN's aircraft carriers, amphibious ships, and destroyers in far-sea voyages. It is believed to be "capable of carrying land-attack cruise missiles that will enable it to hit ground targets, a capability that previous Chinese frigates do not have," according to Cao Weidong, a former researcher from the PLA Naval Military Studies Research Institute. He added that the new frigate will also boast better information-processing capacity and stealth design, giving it "better agility and situational awareness as well as higher survivability in combat."²²

The Type 054B is expected to be equipped with a 32-cell vertical launch system capable of firing various types of missiles and rocket-assisted torpedoes, a 100-millimeter-caliber main gun, and a rotating active electronically scanned array radar, HQ-10 short-range air defense missile system, and torpedo launchers. There are currently two Type 054B under construction, with the second ship being developed at Huangpu Shipyard in Guangzhou.

The PLAN's strategic emphasis on modernizing its naval capabilities underscores China's commitment to enhancing its maritime presence and influence on the global stage. The speedy developments and integration of the latest technology and advanced weaponry indicate China's endeavors and determination to assert maritime dominance and expand its strategic footprint.

From the deployment of aircraft carriers to the stealth capabilities of submarines and the versatility of destroyers, frigates, and corvettes, China's naval advancements signify a formidable force set to shape the dynamics of regional and global security in the years to come and influence the balance of power in the Indo-Pacific and beyond.

22. Zhao Lei, PLA Navy launches next-gen frigate, China Daily, September 7, 2023. <https://www.chinadaily.com.cn/a/202309/07/WS64f9167ca310d2dce4bb45a5.html>



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China's Ambitions at Sea and Naval Modernization


IRIA Staff

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People's Liberation Army Navy's Liaoning Type 001 aircraft carrier.
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